

COMMENTS ON THE SOVIET TIRE INDUSTRY

The USSR tire industry is characterized by low efficiency as compared with the US and most Western European countries. The technology employed in the USSR is not as advanced and the finished products are inferior in quality. Production capacity has been expanded greatly since World War II and an ambitious program for further expansion was laid out for the period 1956-1960 in the now abandoned Sixth Five-Year Plan.

Soviet motor vehicle tire production during the period 1946 to 1957 is shown in the attached table. USSR production of almost 13 million tires in 1957 compares with US production of about 107 million tires in the same year. Most of the tires produced in the USSR are truck tires; probably no more than 15 percent are for passenger car use.

The Soviet Sixth Five-Year Plan called for doubling 1955 production by 1960 or an annual increase of about 15 percent. The labor force, however, was to increase only 40 percent. Sixty percent of the increased production was to come from existing tire plants and forty percent from new plants. At the beginning of 1956 the USSR had 8 tire plants, and at least 4 additional plants were to be built by 1960. Tire production actually increased only 10 percent during each of the first two years of the plan period (1956-1957).

The Soviets have contracted with the UK for a complete tire plant, including buildings and equipment, to be installed at Dnepropetrovsk. This plant is to have an annual capacity of 2 million tires. The equipment ordered for this plant embodies the latest advances in technology, some of which are not yet in general use in this country. The British are reportedly also to furnish the technicians required to get the plant into

production. In addition to this plant, there have been reports of attempts by the Soviets to buy equipment from the British for installation at other sites, but we have no information that such equipment has actually been purchased.

The quality of Soviet tires is inferior by US standards. A Soviet technical journal recently estimated that 50 percent of the Soviet tires withdrawn from service were removed because of failures resulted from poor construction, and the remainder because of tread wear. A Soviet truck tire gives an average of 20,000 miles of service, less than half that of the average US truck tire. The Soviets are aware of the importance of improving the quality of their tires. A recent Soviet press statement estimated that an improvement of only 10 percent in durability would save 50 million rubles (12.5 million dollars at the official rate) for every million tires produced.

There are two principal causes for the inferior quality of Soviet tires, namely, poor technology and poor quality of raw materials. According to qualified sources, the existing Soviet tire plants are antiquated by US standards. The most modern factory, located in Moscow, uses equipment built in the US some 20 years ago. Originally installed in the Ford plant at River Rouge, this equipment was shipped to the USSR during World War II under the lend-lease program. The level of technology embodied in this plant may be judged by the Soviet estimate that the manhours of labor required per tire in the new British plant will be 60 percent less than in the Moscow plant. The reduction may be as much as 80 percent as compared with the native built Soviet tire plants, which are even less efficient.

According to Soviet sources, 54 percent of all employees in Soviet tire factories in 1956 were engaged in hand labor.

The low quality of Soviet raw materials also affects tire quality. The most serious raw material problem is caused by the fact that the USSR has not learned to make special grades of carbon black essential for long wear. The Soviets are just beginning to make butyl rubber, which is essential for satisfactory tubeless tires and for superior inner tubes. Finally, only about one-third of Soviet tires are presently made with rayon or nylon cord. The balance contain cotton cord, which US manufacturers consider inadequate for heavy-duty tires.

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PAGES 170 - 1726

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**COMMENTS ON THE SOVIET TIRE INDUSTRY**

The tire industry in the USSR has been expanded greatly since World War II. At present there are eight Soviet tire plants, located at Moscow, Kirov, Leningrad, Omsk, Novosibirsk, Voronezh, Tarskoye, and Yerevan. No unclassified information is available on the individual capacities of these plants.

The Soviet Union makes the same types of tires as the US. However, the Soviets manufacture a much larger percentage of the larger sizes than the US, because passenger cars constitute less than 1% percent of the total motor vehicle park in the USSR.

No information is available on the distribution of tires between military and civilian consumers. However, the trucks used for military and civilian purposes are the same, except that the military trucks have dual rear wheels, and military and non-military tires are of similar dimensions, except that the former have more plies of cord to give additional strength. Thus, any tire produced has at least a potential military application.

A Soviet truck tire will give an average of about 30,000 miles of service as contrasted with 20,000 miles or more for the US product. Some of this difference is no doubt due to the more severe conditions, including poorer roads and an extreme climate, under which Soviet trucks must operate. Soviet factories make about 4.5 tires per year for every vehicle in the country while US factories produce about 1.5 tires per vehicle.

There are frequent references in the Soviet press to the shortage of tires in certain areas. It is believed that this condition is largely

due to improper distribution of the available supply rather than to an over-all shortage. The Soviets do not import tires from the Free World; in fact, it is probable that they export small quantities to the satellites. A few thousand Soviet motor vehicles equipped with Soviet tires are exported annually to a number of the underdeveloped countries of the Middle East and Asia.

FOREIGN DISSEMINATION

The production of motor vehicle tires in the USSR is adequate to meet military and civilian needs. Production capacity has been expanded greatly since World War II and an ambitious program for further expansion was laid out for the period 1955-1960 in the now abandoned Sixth Five-Year Plan. However, the USSR tire industry is characterized by low efficiency as compared with the US and most Western European countries. The technology employed in the USSR is not as advanced and the finished products are poorer in quality.

Soviet motor vehicle tire production during the period 1946 to 1957 is shown in the attached table. The Soviet Union makes the same types of tires as the US. However, the Soviets manufacture a much larger percentage of truck tires than the US, because passenger cars constitute less than 15 percent of the total motor vehicle park in the USSR. In 1956, the Soviet motor vehicle park consisted of about 2.5 million trucks, 350 thousand automobiles, and 25,000 buses. In that year, highway transportation accounted for less than 5 percent of the total freight ton kilometers of hauling in the USSR.

The Soviet Sixth Five-Year Plan called for doubling 1955 production by 1960 or an annual increase of about 15 percent. The labor force, however, was to increase only 40 percent. Sixty percent of the increased production was to come from existing tire plants and forty percent from new plants. At the beginning of 1956 the USSR had 8 tire plants located at Moscow, Kirov, Leningrad, Gorki, Izdinsk, Voronezh, Yaroslavl, and

Moreover, and at least 4 additional plants were to be built by 1960. The production actually increased only 10 percent during each of the first two years of the plan period (1956-1957).

The production of tires in the USSR is adequate to meet the demand. Although there have been references in the Soviet press to the shortage of tires in certain areas, this condition is largely due to uneven distribution of the available supply rather than to an over-all shortage. The Soviets do not import tires from the Free World; in fact, it is probable that they export small quantities to the satellites. A few thousand Soviet motor vehicles equipped with Soviet tires are exported annually to a number of the underdeveloped countries of the Middle East and Asia.

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The quality of Soviet tires is inferior by US standards. A Soviet technical journal recently estimated that 50 percent of the Soviet tires withdrawn from service were removed because of failures resulting from poor construction, and the remainder because of tread wear. A Soviet truck tire will give an average of about 20,000 miles of service as contrasted with 50,000 miles or more for the US product. None of this difference is



no doubt due to the more severe conditions, including poorer roads and an extreme climate, under which Soviet trucks must operate. Soviet factories make about 4.5 tires per year for every vehicle in the country while the factories produce about 1.6 tires per vehicle. The Soviets are aware of the importance of improving the quality of their tires. A recent Soviet press statement estimated that an improvement of only 10 percent in durability would save 50 million rubles (12.5 million dollars at the official rate) for every million tires produced.

There are two principal causes for the inferior quality of Soviet tires, namely, a less advanced technology and poorer raw materials. According to qualified sources, the existing Soviet tire plants do not come up to US standards. The most modern factory, located in Moscow, uses equipment built in the US some 20 years ago. Originally installed in the Ford plant at River Rouge, this equipment was shipped to the USSR during World War II under the lend-lease program. The level of technology embodied in this plant may be judged by the Soviet estimate that the manhours of labor required per tire in the new plant to be purchased from the British will be 60 percent less than in the Moscow plant. The reduction may be as much as 80 percent as compared with the native built Soviet tire plants, which are even less efficient. According to Soviet sources, 54 percent of all employees in Soviet tire factories in 1956 were engaged in hard labor.

The low quality of Soviet raw materials also affects tire quality. The most serious raw material problem is caused by the fact that the USSR has not learned to make special grades of carbon black essential for long wear. The Soviets are just beginning to make styli rubber, which is essential for satisfactory tubeless tires and for superior inner tubes.

Finally, only about one-third of market times are presently made with  
regard to option card. The balance contain option card, which at some  
future date consider inadequate for many-day times.

WATER VEHICLE TON PRODUCTION -- 1946

1946-1957

Thousand Units

Year	Production	Year	Production
1946	1,900	1952	7,500
1947	2,954	1953	8,114
1948	4,072	1954	9,851
1949	5,000	1955	10,190
1950	7,401	1956	11,300
1951	7,519	1957	12,000